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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/754,548	01/05/2001	Francis A. Moody	YAFO-3	3727

7590  
Stephen R. Whitt  
1215 Tottenham Court  
Reston, VA 20194

04/30/2004

EXAMINER

NG, CHRISTINE Y

ART UNIT	PAPER NUMBER
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2663

DATE MAILED: 04/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/754,548

Applicant(s)

MOODY, FRANCIS A.

Examiner

Christine Ng

Art Unit

2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,4 and 6-11 is/are allowed.
- 6) ☒ Claim(s) 3,5,12 and 14-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>5</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because in Figure 3, "381" should be changed to "311" in Router 305. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

2. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 14, 15 and 16 have been renumbered 13, 14, and 15, respectively.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 3 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites the limitation "said at least a byte-wide interface" in lines 2-3 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "said at least a half byte-wide interface" in lines 2-3 of the claim. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 12 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,793,770 to St John et al.

Referring to claim 12, St. John et al disclose in Figure 2 a hardware-based router interface between a router (HIPPI 40) having a desired capacity (800 Mbits/s) and at least two (6) lower-capacity (155.52 Mbits/s) interfaces (STS-3C). Refer to Column 1, lines 35-41; Column 2, lines 1-3 and Column 2, line 66 to Column 3, line 4. Each of the lower-capacity interfaces (STS-3C) comprises:

A plurality of block interfaces (Figure 6, Elements 206, 208, 210) that each handle a block (COH Data 206, DTU Data 208, TOH/POH PROM Data 210) of a packet (SONET frame) at a time. Data multiplexer 204 receives overhead and HIPPI data to form the SONET data frame through multiplexer 212. Refer to Column 7, lines 41-56 and Column 9, lines 22-29.

A framer (Figure 2, Elements 64-78 and Figure 6, Element 212) for each of the lower-capacity interfaces (STS-3C), wherein each of the framers provides time synchronization (using Timing Generator 202) between the lower-capacity interfaces

(STS-3C). Each of the framers 64-78 form the SONET frame by generating portions of the TOH and POH and accepting the SONET payload inputs. Refer to Column 9, lines 5-13. "Timing generator 202 provides timing signals to clock logic circuitry in the component parts to frame system 200" (Column 9, lines 21-23). Data is stored until it is clocked out onto an available fiber optic channel (strip). Refer to Column 6, line 49 to Column 7, line 15 and Column 9, lines 31-38.

A converter (Figure 2, Elements 82-96) that supplies data between the lower-capacity interfaces (STS-3C) and the framers (Figure 2, Elements 64-78). The converters 82-96 convert the electrical digital serial stream to an optical signal data stream. Refer to Column 9, lines 39-47.

Referring to claim 14, St. John et al discloses in Figure 6 that the block interfaces (Elements 206, 208, 210) are byte-wide interfaces. The COH Data 206, DTU Data 208 and TOH/POH PROM Data 210 are made up of bytes. Refer to Column 7, lines 41-56 and Column 9, lines 22-29.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,793,770 to St. John et al in view of U.S. Patent No. 6,271,946 to Chang et al.

Referring to claim 15, St. John et al disclose in Figures 1 and 2 a first router (Figure 1, Element 12) and a second router (Figure 1, Element 22) of a desired capacity (800 Mbits/s), each router including a hardware interface (Figure 2) between the router and at least two (6) lower-capacity (155.52 Mbits/s) interfaces (STS-3C) of less than the desired capacity (STS-3C). Refer to Column 1, lines 35-41; Column 2, lines 1-3 and Column 2, line 66 to Column 3, line 4. The hardware interface comprises:

A plurality of block interfaces (Figure 6, Elements 206, 208, 210), wherein each of the block interfaces can transmit a byte (COH Data 206, DTU Data 208, TOH/POH PROM Data 210) of a packet at a time. Refer to the rejection of claim 12.

A plurality of respective framers (Figure 2, Elements 64-78 and Figure 6, Element 212) for each of the lower-capacity interfaces (STS-3C), each of the framers providing time synchronization (using Timing Generator 202) between at least two interfaces (STS-3C). Refer to the rejection of claim 12.

At least one converter (Figure 6, Multiplexer 212) that supplies data between the plurality of block interfaces (Figure 6, Elements 206, 208, 210) and the framers (Figure 6, Element 212). Data Multiplexer 212 forms a data frame from the overhead and HIPPI data received from block interfaces 206, 208 and 210 and then sends the frame to framer 212 to form a SONET frame. Refer to Column 9, lines 13-38.

St. John et al do not disclose a WDM transport system between the routers.

Chang et al disclose in Figure 1 a WDM transport system (Element 110) between routers (Elements 101, 102 and 103). Refer to Column 7, lines 46-56. WDM has "fostered the development of networks that are orders of magnitude higher in

transmission bandwidth and lower in latency than existing commercial networks" (Refer to Column 1, lines 23-33). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include WDM transport system between the routers; the motivation being that WDM offers an increase in throughput and a decrease in latency.

Referring to claim 16, St. John et al disclose in Figure 6 that the block interfaces (Elements 206, 208, 210) are byte-wide interfaces. Refer to the rejection of claim 14.

***Allowable Subject Matter***

9. Claims 1, 2, 4 and 6-11 are allowed.

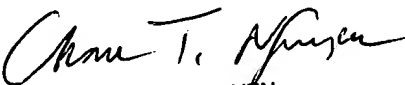
***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Ng whose telephone number is (703) 305-8395. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nguyen Chau can be reached on (703) 308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. Ng <sup>W</sup>  
April 26, 2004

  
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